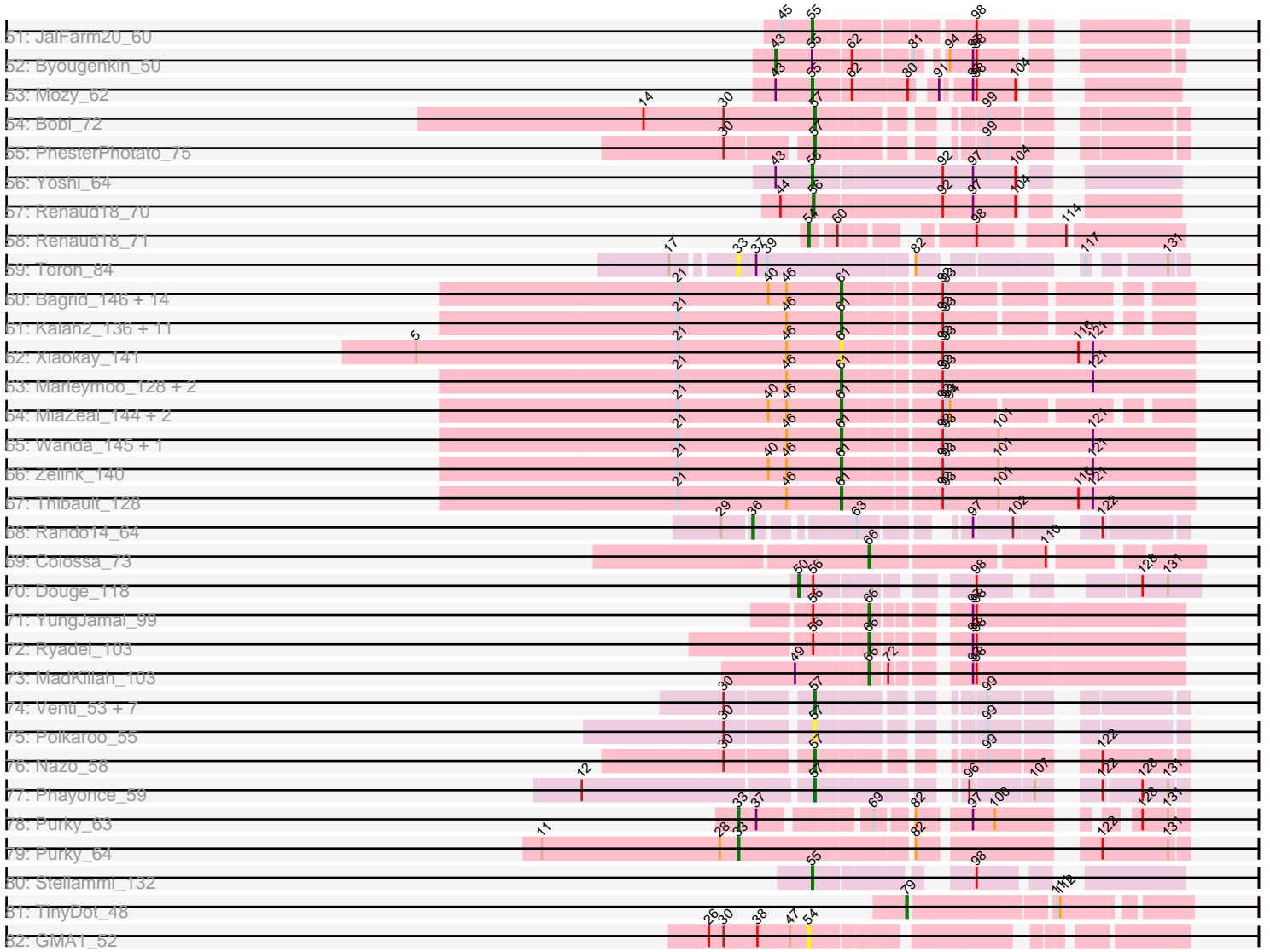


Pham 311216



Pham 311216



Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

## Pham 311216 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311216 has 226 members, 24 are drafts.

Phages represented in each track:

- Track 1 : Aeneas\_68, Smairt\_67, PhrostyMug\_65, Sunshine924\_70, Mule\_62, BaconJack\_70
- Track 2 : Dreamboat\_67, PherrisBueller\_66, Jasper\_66
- Track 3 : Marsha\_65
- Track 4 : Bethlehem\_66
- Track 5 : JayJay\_6
- Track 6 : Drazdys\_6, Tyke\_6, DTDevon\_6, Specks\_6, Pier\_6, Dandelion\_5, Nappy\_5
- Track 7 : FrayBell\_6, LordLeafolot\_6
- Track 8 : PharkleMinkus\_6, Tainan\_6, InterFolia\_6, Pupusa\_6
- Track 9 : Sebata\_6, LinStu\_6
- Track 10 : NuevoMundo\_6
- Track 11 : LolaVinca\_6
- Track 12 : Vortrix\_52
- Track 13 : Vortrix\_51
- Track 14 : Tonenili\_49
- Track 15 : Tonenili\_50
- Track 16 : Culver\_75, WilliamBoone\_73
- Track 17 : OneUp\_65
- Track 18 : BrutonGaster\_61
- Track 19 : MissRona\_77, Azula\_77, Blueberry\_76, Gambino\_79
- Track 20 : William\_80
- Track 21 : DobbysSock\_53
- Track 22 : Beenie\_54
- Track 23 : Gumball\_84, SirHarley\_86
- Track 24 : KandZ\_82, Helpful\_87
- Track 25 : Troll4\_84
- Track 26 : Phalaborwa\_86
- Track 27 : Hawkeye\_97
- Track 28 : Lucky10\_55
- Track 29 : Periwinkle\_62
- Track 30 : GMA2\_107
- Track 31 : Tarzan\_58, DonkeyMan\_58
- Track 32 : Moonbeam\_48, DLane\_48, XFactor\_50, Ardmore\_44, PhesterPhotato\_54, Batiatus\_50, Mova\_53, Melissauren88\_50, CaptainTrips\_49, Emma\_52, Royals2015\_55, MinionDave\_51, Phalconet\_51, Tweety\_52, Madiba\_50, VRedHorse\_52, Hamulus\_53, MilleniumForce\_52

- Track 33 : Gandalph\_55, Polka14\_51
- Track 34 : OldBen\_70, JoeyJr\_73, Doomphist\_76, PHappiness\_73, Poenanya\_76, Nimbo\_65, KingMidas\_72, Empress\_71, Geralt\_66, Inventum\_71, RedBird\_74, Dorothy\_74, Polka14\_77, Deb65\_66, Daenerys\_72, Leperchaun\_71, RitaG\_73, Scottish\_71, Sassafras\_74
- Track 35 : Enby\_53, SG4\_49, Lorde\_53
- Track 36 : Latretium\_77
- Track 37 : Bobi\_55, Okabe\_47, Jant\_56, Krakatau\_50, Harley\_54
- Track 38 : Poenanya\_52, Cornucopia\_55, DotProduct\_48, Doomphist\_52, GigiOuiOui\_49, OwlsT2W\_53
- Track 39 : Job42\_55
- Track 40 : Chuckly\_55, Phasih\_51, Ogopogo\_57, Clank\_57, Sparkdehlily\_60, Aubs\_53, TDanisky\_60
- Track 41 : Whatsapiecost\_53
- Track 42 : ShroomBoi\_52, Kenuha5\_50, Bipolar\_49, SuperGrey\_52, KristaRAM\_51
- Track 43 : Firehouse51\_53, Mwanjiwa\_58, Chevrolet\_59, RockyHorror\_53, ArcusAngelus\_56, Zerg\_52, Marker\_53, Doug\_55, Che8\_55
- Track 44 : Sassafras\_50, Dante\_53, DaWorst\_54, Inventum\_47, DaddyRickover\_52
- Track 45 : DeadP\_58, Renaud18\_58, Taj\_56, Wee\_55
- Track 46 : Phanphagia\_47
- Track 47 : Topiatin\_58
- Track 48 : MadMen\_62
- Track 49 : Modragons\_38, Seabastian\_39, Ochi17\_37, OfUltron\_39, Yoshi\_44, Llama\_39, Nichirin\_39, Jinglebell\_38, Oksu\_39, AlpineSix\_39
- Track 50 : Hegedechwinu\_72, SG4\_69
- Track 51 : JalFarm20\_60
- Track 52 : Byougenkin\_50
- Track 53 : Mozy\_62
- Track 54 : Bobi\_72
- Track 55 : PhesterPhotato\_75
- Track 56 : Yoshi\_64
- Track 57 : Renaud18\_70
- Track 58 : Renaud18\_71
- Track 59 : Toron\_84
- Track 60 : Bagrid\_146, Ejimix\_138, Hughesyang\_144, ThreeRngTarjay\_140, Optimus\_136, BAKA\_145, EricMillard\_137, Duke13\_141, DmpstrDiver\_146, Halley\_147, Dallas\_146, Pound\_137, Schatzie\_141, Phoebus\_145, Constella\_139
- Track 61 : Kalah2\_136, Dove\_131, NihilNomen\_147, Yeet\_139, HokkenD\_138, Beem\_147, Odette\_149, KashFlow\_144, Klein\_143, JuicyJay\_141, Redno2\_140, Bombitas\_133
- Track 62 : Xiaokay\_141
- Track 63 : Marleymoo\_128, Hidrated\_131, Bobby\_135
- Track 64 : MiaZeal\_144, Porcelain\_141, Lucky2013\_137
- Track 65 : Wanda\_145, Minerva\_145
- Track 66 : Zelink\_140
- Track 67 : Thibault\_128
- Track 68 : Rando14\_64
- Track 69 : Colossa\_73
- Track 70 : Douge\_118
- Track 71 : YungJamal\_99
- Track 72 : Ryadel\_103
- Track 73 : MadKillah\_103

- Track 74 : Venti\_53, Kari\_52, FirstPlacePfu\_54, Etoile\_52, Langerak\_53, Chubbello\_52, Fishburne\_52, Bartholomew\_52
- Track 75 : Polkaroo\_55
- Track 76 : Nazo\_58
- Track 77 : Phayonce\_59
- Track 78 : Purky\_63
- Track 79 : Purky\_64
- Track 80 : Stellammi\_132
- Track 81 : TinyDot\_48
- Track 82 : GMA1\_52

***Summary of Final Annotations (See graph section above for start numbers):***

The start number called the most often in the published annotations is 55, it was called in 69 of the 202 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ArcusAngelus\_56, Ardmore\_44, Aubs\_53, Batiatus\_50, Bethlehem\_66, Bipolar\_49, CaptainTrips\_49, Che8\_55, Chevrolet\_59, Chuckly\_55, Clank\_57, Cornucopia\_55, DLane\_48, DaWorst\_54, DaddyRickover\_52, Dante\_53, DeadP\_58, Doomphist\_52, DotProduct\_48, Doug\_55, Emma\_52, Enby\_53, Firehouse51\_53, Gandalph\_55, GigiOuiOui\_49, Gumball\_84, Hamulus\_53, Helpful\_87, Inventum\_47, JalFarm20\_60, Job42\_55, KandZ\_82, Kenuha5\_50, KristaRAM\_51, Lorde\_53, Madiba\_50, Marker\_53, Melissauen88\_50, MilleniumForce\_52, MinionDave\_51, Moonbeam\_48, Mova\_53, Mozy\_62, Mwanjiwa\_58, Ogotogo\_57, OwlsT2W\_53, Phalaborwa\_86, Phalconet\_51, Phanphagia\_47, Phasih\_51, PhesterPotato\_54, Poenanya\_52, Polka14\_51, Renaud18\_58, RockyHorror\_53, Royals2015\_55, SG4\_49, Sassafras\_50, ShroomBoi\_52, SirHarley\_86, Sparkdehlily\_60, Stellammi\_132, SuperGrey\_52, TDanisky\_60, Taj\_56, Topiatin\_58, Troll4\_84, Tweety\_52, VRedHorse\_52, Wee\_55, Whatsapiecost\_53, XFactor\_50, Yoshi\_64, Zerg\_52,

Genes that have the "Most Annotated" start but do not call it:

- Bobi\_55, Byougenkin\_50, Harley\_54, Jant\_56, Krakatau\_50, Okabe\_47,

Genes that do not have the "Most Annotated" start:

- Aeneas\_68, AlpineSix\_39, Azula\_77, BAKA\_145, BaconJack\_70, Bagrid\_146, Bartholomew\_52, Beem\_147, Beenie\_54, Blueberry\_76, Bobby\_135, Bobi\_72, Bombitas\_133, BrutonGaster\_61, Chubbello\_52, Colossa\_73, Constella\_139, Culver\_75, DTDevon\_6, Daenerys\_72, Dallas\_146, Dandelion\_5, Deb65\_66, DmpstrDiver\_146, DobbysSock\_53, DonkeyMan\_58, Doomphist\_76, Dorothy\_74, Douge\_118, Dove\_131, Drazdys\_6, Dreamboat\_67, Duke13\_141, Ejimix\_138, Empress\_71, EricMillard\_137, Etoile\_52, FirstPlacePfu\_54, Fishburne\_52, FrayBell\_6, GMA1\_52, GMA2\_107, Gambino\_79, Geralt\_66, Halley\_147, Hawkeye\_97, Hegedechwinu\_72, Hidrated\_131, HokkenD\_138, Hughesyang\_144, InterFolia\_6, Inventum\_71, Jasper\_66, JayJay\_6, Jinglebell\_38, JoeyJr\_73, JuicyJay\_141, Kalah2\_136, Kari\_52, KashFlow\_144, KingMidas\_72, Klein\_143, Langerak\_53, Latretium\_77, Leperchaun\_71, LinStu\_6, Llama\_39, LolaVinca\_6, LordLeafolot\_6, Lucky10\_55, Lucky2013\_137, MadKillah\_103, MadMen\_62, Marleymoo\_128, Marsha\_65, MiaZeal\_144, Minerva\_145, MissRona\_77, Modragons\_38, Mule\_62, Nappy\_5, Nazo\_58, Nichirin\_39, NihilNomen\_147,

Nimbo\_65, NuevoMundo\_6, Ochi17\_37, Odette\_149, OfUltron\_39, Oksu\_39, OldBen\_70, OneUp\_65, Optimus\_136, PHappiness\_73, Periwinkle\_62, PharkleMinkus\_6, Phayonce\_59, PherrisBueller\_66, PhesterPhotato\_75, Phoebus\_145, PhrostyMug\_65, Pier\_6, Poenanya\_76, Polka14\_77, Polkaroo\_55, Porcelain\_141, Pound\_137, Pupusa\_6, Purky\_63, Purky\_64, Rando14\_64, RedBird\_74, Redno2\_140, Renaud18\_70, Renaud18\_71, RitaG\_73, Ryadel\_103, SG4\_69, Sassafras\_74, Schatzie\_141, Scottish\_71, Seabastian\_39, Sebata\_6, Smairt\_67, Specks\_6, Sunshine924\_70, Tainan\_6, Tarzan\_58, Thibault\_128, ThreeRngTarjay\_140, TinyDot\_48, Tonenili\_49, Tonenili\_50, Toron\_84, Tyke\_6, Venti\_53, Vortrix\_51, Vortrix\_52, Wanda\_145, WilliamBoone\_73, William\_80, Xiaokay\_141, Yeet\_139, Yoshi\_44, YungJamal\_99, Zelink\_140,

### Summary by start number:

#### Start 33:

- Found in 3 of 226 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 2 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Purky\_63 (P6), Purky\_64 (P6), Toron\_84 (F6),

#### Start 36:

- Found in 1 of 226 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rando14\_64 (K5),

#### Start 43:

- Found in 54 of 226 ( 23.9% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 1.9% of time when present
- Phage (with cluster) where this start called: Byougenkin\_50 (F1),

#### Start 50:

- Found in 2 of 226 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Douge\_118 (L4),

#### Start 51:

- Found in 2 of 226 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beenie\_54 (CZ4), Lucky10\_55 (DH),

#### Start 52:

- Found in 18 of 226 ( 8.0% ) of genes in pham
- Manual Annotations of this start: 3 of 202
- Called 16.7% of time when present
- Phage (with cluster) where this start called: JayJay\_6 (C1), LolaVinca\_6 (C1), NuevoMundo\_6 (C1),

#### Start 54:

- Found in 12 of 226 ( 5.3% ) of genes in pham
- Manual Annotations of this start: 10 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aeneas\_68 (A1), BaconJack\_70 (A1), DobbysSock\_53 (CZ4), GMA1\_52 (singleton), GMA2\_107 (DS), Marsha\_65 (A1), Mule\_62 (A1), Periwinkle\_62 (DN1), PhrostyMug\_65 (A1), Renaud18\_71 (F4), Smairt\_67 (A1), Sunshine924\_70 (A1),

#### Start 55:

- Found in 80 of 226 ( 35.4% ) of genes in pham
- Manual Annotations of this start: 69 of 202
- Called 92.5% of time when present
- Phage (with cluster) where this start called: ArcusAngelus\_56 (F1), Ardmore\_44 (F1), Aubs\_53 (F1), Batiatus\_50 (F1), Bethlehem\_66 (A1), Bipolar\_49 (F1), CaptainTrips\_49 (F1), Che8\_55 (F1), Chevrolet\_59 (F1), Chuckly\_55 (F1), Clank\_57 (F), Cornucopia\_55 (F1), DLane\_48 (F1), DaWorst\_54 (F1), DaddyRickover\_52 (F1), Dante\_53 (F1), DeadP\_58 (F1), Doomphist\_52 (F1), DotProduct\_48 (F1), Doug\_55 (F1), Emma\_52 (F1), Enby\_53 (F1), Firehouse51\_53 (F1), Gandalph\_55 (F1), GigiOuiOui\_49 (F1), Gumball\_84 (D1), Hamulus\_53 (F1), Helpful\_87 (D1), Inventum\_47 (F1), JalFarm20\_60 (F1), Job42\_55 (F1), KandZ\_82 (D1), Kenuha5\_50 (F1), KristaRAM\_51 (F1), Lorde\_53 (F1), Madiba\_50 (F1), Marker\_53 (F1), Melissauren88\_50 (F1), MilleniumForce\_52 (F1), MinionDave\_51 (F1), Moonbeam\_48 (F1), Mova\_53 (F1), Mozy\_62 (F1), Mwanjiwa\_58 (F1), Ogopogo\_57 (F1), OwlsT2W\_53 (F1), Phalaborwa\_86 (D1), Phalconet\_51 (F1), Phanphagia\_47 (F1), Phasih\_51 (F1), PhesterPhotato\_54 (F1), Poenanya\_52 (F1), Polka14\_51 (F1), Renaud18\_58 (F4), RockyHorror\_53 (F1), Royals2015\_55 (F1), SG4\_49 (F1), Sassafras\_50 (F1), ShroomBoi\_52 (F1), SirHarley\_86 (D1), Sparkdehily\_60 (F1), Stellammi\_132 (UNK), SuperGrey\_52 (F1), TDanisky\_60 (F1), Taj\_56 (F1), Topiatin\_58 (F1), Troll4\_84 (D1), Tweety\_52 (F1), VRedHorse\_52 (F1), Wee\_55 (F1), Whatsapiecost\_53 (F1), XFactor\_50 (F1), Yoshi\_64 (F2), Zerg\_52 (F1),

#### Start 56:

- Found in 34 of 226 ( 15.0% ) of genes in pham
- Manual Annotations of this start: 20 of 202
- Called 64.7% of time when present
- Phage (with cluster) where this start called: AlpineSix\_39 (F1), DTDevon\_6 (C1), Dandelion\_5 (C1), Drazdys\_6 (C1), FrayBell\_6 (C1), Jinglebell\_38 (F1), LinStu\_6 (C1), Llama\_39 (F1), LordLeafolot\_6 (C1), Modragons\_38 (F1), Nappy\_5 (C1), Nichirin\_39 (F1), Ochi17\_37 (F1), OfUltron\_39 (F1), Oksu\_39 (F1), Pier\_6 (C1), Renaud18\_70 (F4), Seabastian\_39 (F1), Sebata\_6 (C1), Specks\_6 (C1), Tyke\_6 (C1), Yoshi\_44 (F2),

#### Start 57:

- Found in 41 of 226 ( 18.1% ) of genes in pham
- Manual Annotations of this start: 37 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bartholomew\_52 (P1), Bobi\_72 (F1), Chubbello\_52 (P1), Daenerys\_72 (F1), Deb65\_66 (F1), DonkeyMan\_58 (DY), Doomphist\_76 (F1), Dorothy\_74 (F1), Empress\_71 (F1), Etoile\_52 (P1), FirstPlacePfu\_54 (P1), Fishburne\_52 (P1), Geralt\_66 (F1), Hawkeye\_97 (D2), Hegedechwinu\_72 (F1), Inventum\_71 (F1), JoeyJr\_73 (F1), Kari\_52 (P1), KingMidas\_72 (F1), Langerak\_53 (P1), Leperchaun\_71 (F1), Nazo\_58 (P4), Nimbo\_65 (F1), OldBen\_70 (F1), PHappiness\_73 (F1), Phayonce\_59 (P5),

PhesterPhotato\_75 (F1), Poenanya\_76 (F1), Polka14\_77 (F1), Polkaroo\_55 (P1), RedBird\_74 (F1), RitaG\_73 (F1), SG4\_69 (F1), Sassafras\_74 (F1), Scottish\_71 (F1), Tarzan\_58 (DY), Tonenili\_49 (C1), Tonenili\_50 (C1), Venti\_53 (P1), Vortrix\_51 (C1), Vortrix\_52 (C1),

Start 58:

- Found in 1 of 226 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: William\_80 (CV),

Start 59:

- Found in 2 of 226 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 50.0% of time when present
- Phage (with cluster) where this start called: BrutonGaster\_61 (CQ2),

Start 61:

- Found in 42 of 226 ( 18.6% ) of genes in pham
- Manual Annotations of this start: 36 of 202
- Called 97.6% of time when present
- Phage (with cluster) where this start called: BAKA\_145 (J), Bagrid\_146 (J), Beem\_147 (J), Bobby\_135 (J), Bombitas\_133 (J), Constella\_139 (J), Culver\_75 (CQ1), Dallas\_146 (J), DmpstrDiver\_146 (J), Dove\_131 (J), Duke13\_141 (J), Ejimix\_138 (J), EricMillard\_137 (J), Halley\_147 (J), Hidrated\_131 (J), HokkenD\_138 (J), Hughesyang\_144 (J), JuicyJay\_141 (J), Kalah2\_136 (J), KashFlow\_144 (J), Klein\_143 (J), Lucky2013\_137 (J), Marleymoo\_128 (J), MiaZeal\_144 (J), Minerva\_145 (J), NihilNomen\_147 (J), Odette\_149 (J), OneUp\_65 (CQ2), Optimus\_136 (J), Phoebus\_145 (J), Porcelain\_141 (J), Pound\_137 (J), Redno2\_140 (J), Schatzie\_141 (J), Thibault\_128 (J), ThreeRngTarjay\_140 (J), Wanda\_145 (J), WilliamBoone\_73 (CQ1), Xiaokay\_141 (J), Yeet\_139 (J), Zelink\_140 (J),

Start 66:

- Found in 51 of 226 ( 22.6% ) of genes in pham
- Manual Annotations of this start: 10 of 202
- Called 29.4% of time when present
- Phage (with cluster) where this start called: Bobi\_55 (F1), Colossa\_73 (KA), Harley\_54 (F1), InterFolia\_6 (C1), Jant\_56 (F1), Krakatau\_50 (F1), Latretium\_77 (F1), MadKillah\_103 (O), MadMen\_62 (F1), Okabe\_47 (F8), PharkleMinkus\_6 (C1), Pupusa\_6 (C1), Ryadel\_103 (O), Tainan\_6 (C1), YungJamal\_99 (O),

Start 68:

- Found in 3 of 226 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 3 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dreamboat\_67 (A1), Jasper\_66 (A1), PherrisBueller\_66 (A1),

Start 79:

- Found in 1 of 226 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TinyDot\_48 (singleton),

Start 95:

- Found in 4 of 226 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 4 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azula\_77 (CV), Blueberry\_76 (CV), Gambino\_79 (CV), MissRona\_77 (CV),

### **Summary by clusters:**

There are 29 clusters represented in this pham: singleton, DH, CZ4, K5, DY, DS, F, CV, A1, DN1, CQ2, CQ1, P1, P6, P4, P5, J, KA, O, L4, UNK, C1, F1, F2, F4, F6, F8, D2, D1,

Info for manual annotations of cluster A1:

- Start number 54 was manually annotated 7 times for cluster A1.
- Start number 55 was manually annotated 1 time for cluster A1.
- Start number 68 was manually annotated 3 times for cluster A1.

Info for manual annotations of cluster C1:

- Start number 52 was manually annotated 3 times for cluster C1.
- Start number 56 was manually annotated 11 times for cluster C1.
- Start number 57 was manually annotated 2 times for cluster C1.
- Start number 66 was manually annotated 1 time for cluster C1.

Info for manual annotations of cluster CQ1:

- Start number 61 was manually annotated 2 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 59 was manually annotated 1 time for cluster CQ2.
- Start number 61 was manually annotated 1 time for cluster CQ2.

Info for manual annotations of cluster CV:

- Start number 58 was manually annotated 1 time for cluster CV.
- Start number 95 was manually annotated 4 times for cluster CV.

Info for manual annotations of cluster CZ4:

- Start number 51 was manually annotated 1 time for cluster CZ4.
- Start number 54 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster D1:

- Start number 55 was manually annotated 5 times for cluster D1.

Info for manual annotations of cluster D2:

- Start number 57 was manually annotated 1 time for cluster D2.

Info for manual annotations of cluster DH:

- Start number 51 was manually annotated 1 time for cluster DH.

Info for manual annotations of cluster DN1:

- Start number 54 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DY:

- Start number 57 was manually annotated 2 times for cluster DY.

Info for manual annotations of cluster F1:

- Start number 43 was manually annotated 1 time for cluster F1.
- Start number 55 was manually annotated 60 times for cluster F1.
- Start number 56 was manually annotated 7 times for cluster F1.
- Start number 57 was manually annotated 23 times for cluster F1.
- Start number 66 was manually annotated 5 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 55 was manually annotated 1 time for cluster F2.
- Start number 56 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster F4:

- Start number 54 was manually annotated 1 time for cluster F4.
- Start number 55 was manually annotated 1 time for cluster F4.
- Start number 56 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster J:

- Start number 61 was manually annotated 33 times for cluster J.

Info for manual annotations of cluster K5:

- Start number 36 was manually annotated 1 time for cluster K5.

Info for manual annotations of cluster KA:

- Start number 66 was manually annotated 1 time for cluster KA.

Info for manual annotations of cluster L4:

- Start number 50 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster O:

- Start number 66 was manually annotated 3 times for cluster O.

Info for manual annotations of cluster P1:

- Start number 57 was manually annotated 7 times for cluster P1.

Info for manual annotations of cluster P4:

- Start number 57 was manually annotated 1 time for cluster P4.

Info for manual annotations of cluster P5:

- Start number 57 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster P6:

- Start number 33 was manually annotated 2 times for cluster P6.

Info for manual annotations of cluster UNK:

- Start number 55 was manually annotated 1 time for cluster UNK.

**Gene Information:**

Gene: Aeneas\_68 Start: 44278, Stop: 44033, Start Num: 54

Candidate Starts for Aeneas\_68:

(Start: 54 @44278 has 10 MA's), (70, 44236), (74, 44224), (84, 44221), (98, 44182), (101, 44164),

Gene: AlpineSix\_39 Start: 31200, Stop: 31009, Start Num: 56

Candidate Starts for AlpineSix\_39:

(Start: 56 @31200 has 20 MA's), (98, 31110),

Gene: ArcusAngelus\_56 Start: 38441, Stop: 38683, Start Num: 55

Candidate Starts for ArcusAngelus\_56:

(Start: 43 @38411 has 1 MA's), (Start: 55 @38441 has 69 MA's), (98, 38552),

Gene: Ardmore\_44 Start: 35217, Stop: 35447, Start Num: 55

Candidate Starts for Ardmore\_44:

(Start: 43 @35187 has 1 MA's), (Start: 55 @35217 has 69 MA's), (Start: 66 @35253 has 10 MA's), (97, 35313), (98, 35316),

Gene: Aubs\_53 Start: 37222, Stop: 37464, Start Num: 55

Candidate Starts for Aubs\_53:

(53, 37216), (Start: 55 @37222 has 69 MA's), (98, 37333),

Gene: Azula\_77 Start: 48141, Stop: 48380, Start Num: 95

Candidate Starts for Azula\_77:

(1, 47394), (2, 47400), (3, 47406), (4, 47451), (13, 47889), (20, 47916), (35, 47979), (44, 48003), (67, 48078), (70, 48087), (Start: 95 @48141 has 4 MA's), (99, 48168), (131, 48306), (133, 48327), (134, 48375),

Gene: BAKA\_145 Start: 76447, Stop: 76692, Start Num: 61

Candidate Starts for BAKA\_145:

(21, 76312), (40, 76387), (46, 76402), (Start: 61 @76447 has 36 MA's), (92, 76519), (93, 76522),

Gene: BaconJack\_70 Start: 45368, Stop: 45123, Start Num: 54

Candidate Starts for BaconJack\_70:

(Start: 54 @45368 has 10 MA's), (70, 45326), (74, 45314), (84, 45311), (98, 45272), (101, 45254),

Gene: Bagrid\_146 Start: 77142, Stop: 77387, Start Num: 61

Candidate Starts for Bagrid\_146:

(21, 77007), (40, 77082), (46, 77097), (Start: 61 @77142 has 36 MA's), (92, 77214), (93, 77217),

Gene: Bartholomew\_52 Start: 36036, Stop: 36263, Start Num: 57

Candidate Starts for Bartholomew\_52:

(30, 35973), (Start: 57 @36036 has 37 MA's), (99, 36135),

Gene: Batiatus\_50 Start: 37046, Stop: 37276, Start Num: 55

Candidate Starts for Batiatus\_50:

(Start: 43 @37016 has 1 MA's), (Start: 55 @37046 has 69 MA's), (Start: 66 @37082 has 10 MA's), (97, 37142), (98, 37145),

Gene: Beem\_147 Start: 78045, Stop: 78290, Start Num: 61

Candidate Starts for Beem\_147:

(21, 77910), (46, 78000), (Start: 61 @78045 has 36 MA's), (92, 78117), (93, 78120),

Gene: Beenie\_54 Start: 39845, Stop: 40141, Start Num: 51

Candidate Starts for Beenie\_54:

(9, 39605), (10, 39608), (Start: 51 @39845 has 2 MA's), (67, 39893), (73, 39911), (106, 40007), (110, 40025), (115, 40049), (127, 40085), (130, 40097),

Gene: Bethlehem\_66 Start: 44024, Stop: 43779, Start Num: 55

Candidate Starts for Bethlehem\_66:

(Start: 55 @44024 has 69 MA's), (97, 43916),

Gene: Bipolar\_49 Start: 36854, Stop: 37099, Start Num: 55

Candidate Starts for Bipolar\_49:

(27, 36770), (32, 36788), (45, 36830), (Start: 55 @36854 has 69 MA's), (98, 36965),

Gene: Blueberry\_76 Start: 48141, Stop: 48380, Start Num: 95

Candidate Starts for Blueberry\_76:

(1, 47394), (2, 47400), (3, 47406), (4, 47451), (13, 47889), (20, 47916), (35, 47979), (44, 48003), (67, 48078), (70, 48087), (Start: 95 @48141 has 4 MA's), (99, 48168), (131, 48306), (133, 48327), (134, 48375),

Gene: Bobby\_135 Start: 77882, Stop: 78160, Start Num: 61

Candidate Starts for Bobby\_135:

(21, 77747), (46, 77837), (Start: 61 @77882 has 36 MA's), (92, 77954), (93, 77957), (121, 78077),

Gene: Bobi\_55 Start: 38256, Stop: 38450, Start Num: 66

Candidate Starts for Bobi\_55:

(Start: 43 @38190 has 1 MA's), (Start: 55 @38220 has 69 MA's), (Start: 66 @38256 has 10 MA's), (97, 38316), (98, 38319),

Gene: Bobi\_72 Start: 44458, Stop: 44685, Start Num: 57

Candidate Starts for Bobi\_72:

(14, 44317), (30, 44383), (Start: 57 @44458 has 37 MA's), (99, 44557),

Gene: Bombitas\_133 Start: 75456, Stop: 75701, Start Num: 61

Candidate Starts for Bombitas\_133:

(21, 75321), (46, 75411), (Start: 61 @75456 has 36 MA's), (92, 75528), (93, 75531),

Gene: BrutonGaster\_61 Start: 45214, Stop: 45435, Start Num: 59

Candidate Starts for BrutonGaster\_61:

(Start: 59 @45214 has 1 MA's), (Start: 61 @45220 has 36 MA's), (93, 45295), (94, 45298), (126, 45415),

Gene: Byougenkin\_50 Start: 36870, Stop: 37133, Start Num: 43

Candidate Starts for Byougenkin\_50:

(Start: 43 @36870 has 1 MA's), (Start: 55 @36900 has 69 MA's), (62, 36924), (81, 36966), (94, 36981), (97, 36999), (98, 37002),

Gene: CaptainTrips\_49 Start: 36066, Stop: 36296, Start Num: 55

Candidate Starts for CaptainTrips\_49:

(Start: 43 @36036 has 1 MA's), (Start: 55 @36066 has 69 MA's), (Start: 66 @36102 has 10 MA's), (97, 36162), (98, 36165),

Gene: Che8\_55 Start: 38308, Stop: 38550, Start Num: 55

Candidate Starts for Che8\_55:

(Start: 43 @38278 has 1 MA's), (Start: 55 @38308 has 69 MA's), (98, 38419),

Gene: Chevrolet\_59 Start: 38442, Stop: 38684, Start Num: 55

Candidate Starts for Chevrolet\_59:

(Start: 43 @38412 has 1 MA's), (Start: 55 @38442 has 69 MA's), (98, 38553),

Gene: Chubbello\_52 Start: 36032, Stop: 36259, Start Num: 57

Candidate Starts for Chubbello\_52:

(30, 35969), (Start: 57 @36032 has 37 MA's), (99, 36131),

Gene: Chuckly\_55 Start: 37799, Stop: 38041, Start Num: 55

Candidate Starts for Chuckly\_55:

(53, 37793), (Start: 55 @37799 has 69 MA's), (98, 37910),

Gene: Clank\_57 Start: 38129, Stop: 38371, Start Num: 55

Candidate Starts for Clank\_57:

(53, 38123), (Start: 55 @38129 has 69 MA's), (98, 38240),

Gene: Colossa\_73 Start: 43841, Stop: 44080, Start Num: 66

Candidate Starts for Colossa\_73:

(Start: 66 @43841 has 10 MA's), (110, 43973),

Gene: Constella\_139 Start: 76698, Stop: 76943, Start Num: 61

Candidate Starts for Constella\_139:

(21, 76563), (40, 76638), (46, 76653), (Start: 61 @76698 has 36 MA's), (92, 76770), (93, 76773),

Gene: Cornucopia\_55 Start: 38144, Stop: 38386, Start Num: 55

Candidate Starts for Cornucopia\_55:

(Start: 43 @38114 has 1 MA's), (Start: 55 @38144 has 69 MA's), (97, 38252),

Gene: Culver\_75 Start: 47605, Stop: 47847, Start Num: 61

Candidate Starts for Culver\_75:

(22, 47485), (Start: 61 @47605 has 36 MA's), (94, 47683), (132, 47833),

Gene: DLane\_48 Start: 36148, Stop: 36381, Start Num: 55

Candidate Starts for DLane\_48:

(Start: 43 @36118 has 1 MA's), (Start: 55 @36148 has 69 MA's), (Start: 66 @36184 has 10 MA's), (97, 36244), (98, 36247),

Gene: DTDevon\_6 Start: 1888, Stop: 2115, Start Num: 56

Candidate Starts for DTDevon\_6:

(Start: 52 @1879 has 3 MA's), (Start: 56 @1888 has 20 MA's), (Start: 66 @1924 has 10 MA's), (71, 1933), (98, 1987), (109, 2026),

Gene: DaWorst\_54 Start: 38043, Stop: 38276, Start Num: 55

Candidate Starts for DaWorst\_54:

(Start: 43 @38013 has 1 MA's), (Start: 55 @38043 has 69 MA's), (62, 38067), (81, 38109), (94, 38124), (97, 38142), (98, 38145),

Gene: DaddyRickover\_52 Start: 37670, Stop: 37903, Start Num: 55

Candidate Starts for DaddyRickover\_52:

(Start: 43 @37640 has 1 MA's), (Start: 55 @37670 has 69 MA's), (62, 37694), (81, 37736), (94, 37751), (97, 37769), (98, 37772),

Gene: Daenerys\_72 Start: 47067, Stop: 47294, Start Num: 57

Candidate Starts for Daenerys\_72:

(Start: 57 @47067 has 37 MA's), (99, 47166),

Gene: Dallas\_146 Start: 77512, Stop: 77757, Start Num: 61

Candidate Starts for Dallas\_146:

(21, 77377), (40, 77452), (46, 77467), (Start: 61 @77512 has 36 MA's), (92, 77584), (93, 77587),

Gene: Dandelion\_5 Start: 1888, Stop: 2115, Start Num: 56

Candidate Starts for Dandelion\_5:

(Start: 52 @1879 has 3 MA's), (Start: 56 @1888 has 20 MA's), (Start: 66 @1924 has 10 MA's), (71, 1933), (98, 1987), (109, 2026),

Gene: Dante\_53 Start: 37036, Stop: 37266, Start Num: 55

Candidate Starts for Dante\_53:

(Start: 43 @37006 has 1 MA's), (Start: 55 @37036 has 69 MA's), (62, 37060), (81, 37099), (94, 37114), (97, 37132), (98, 37135),

Gene: DeadP\_58 Start: 38932, Stop: 39159, Start Num: 55

Candidate Starts for DeadP\_58:

(Start: 43 @38902 has 1 MA's), (Start: 55 @38932 has 69 MA's), (64, 38965), (83, 38989), (97, 39022),

Gene: Deb65\_66 Start: 44788, Stop: 45015, Start Num: 57

Candidate Starts for Deb65\_66:

(Start: 57 @44788 has 37 MA's), (99, 44887),

Gene: DmpstrDiver\_146 Start: 77431, Stop: 77676, Start Num: 61

Candidate Starts for DmpstrDiver\_146:

(21, 77296), (40, 77371), (46, 77386), (Start: 61 @77431 has 36 MA's), (92, 77503), (93, 77506),

Gene: DobbysSock\_53 Start: 39107, Stop: 39373, Start Num: 54

Candidate Starts for DobbysSock\_53:

(Start: 54 @39107 has 10 MA's), (77, 39173), (80, 39176),

Gene: DonkeyMan\_58 Start: 38401, Stop: 38625, Start Num: 57

Candidate Starts for DonkeyMan\_58:

(Start: 57 @38401 has 37 MA's), (65, 38437), (105, 38530), (125, 38578),

Gene: Doomphist\_76 Start: 46880, Stop: 47107, Start Num: 57

Candidate Starts for Doomphist\_76:

(Start: 57 @46880 has 37 MA's), (99, 46979),

Gene: Doomphist\_52 Start: 38179, Stop: 38421, Start Num: 55

Candidate Starts for Doomphist\_52:

(Start: 43 @38149 has 1 MA's), (Start: 55 @38179 has 69 MA's), (97, 38287),

Gene: Dorothy\_74 Start: 45505, Stop: 45732, Start Num: 57

Candidate Starts for Dorothy\_74:

(Start: 57 @45505 has 37 MA's), (99, 45604),

Gene: DotProduct\_48 Start: 36209, Stop: 36451, Start Num: 55  
Candidate Starts for DotProduct\_48:  
(Start: 43 @36179 has 1 MA's), (Start: 55 @36209 has 69 MA's), (97, 36317),

Gene: Doug\_55 Start: 38300, Stop: 38542, Start Num: 55  
Candidate Starts for Doug\_55:  
(Start: 43 @38270 has 1 MA's), (Start: 55 @38300 has 69 MA's), (98, 38411),

Gene: Douge\_118 Start: 64670, Stop: 64912, Start Num: 50  
Candidate Starts for Douge\_118:  
(Start: 50 @64670 has 1 MA's), (Start: 56 @64682 has 20 MA's), (98, 64778), (128, 64865), (131, 64886),

Gene: Dove\_131 Start: 73030, Stop: 73275, Start Num: 61  
Candidate Starts for Dove\_131:  
(21, 72895), (46, 72985), (Start: 61 @73030 has 36 MA's), (92, 73102), (93, 73105),

Gene: Drazdys\_6 Start: 1888, Stop: 2115, Start Num: 56  
Candidate Starts for Drazdys\_6:  
(Start: 52 @1879 has 3 MA's), (Start: 56 @1888 has 20 MA's), (Start: 66 @1924 has 10 MA's), (71, 1933), (98, 1987), (109, 2026),

Gene: Dreamboat\_67 Start: 41780, Stop: 41553, Start Num: 68  
Candidate Starts for Dreamboat\_67:  
(Start: 68 @41780 has 3 MA's), (98, 41720),

Gene: Duke13\_141 Start: 74732, Stop: 74977, Start Num: 61  
Candidate Starts for Duke13\_141:  
(21, 74597), (40, 74672), (46, 74687), (Start: 61 @74732 has 36 MA's), (92, 74804), (93, 74807),

Gene: Ejimix\_138 Start: 77580, Stop: 77825, Start Num: 61  
Candidate Starts for Ejimix\_138:  
(21, 77445), (40, 77520), (46, 77535), (Start: 61 @77580 has 36 MA's), (92, 77652), (93, 77655),

Gene: Emma\_52 Start: 36405, Stop: 36638, Start Num: 55  
Candidate Starts for Emma\_52:  
(Start: 43 @36375 has 1 MA's), (Start: 55 @36405 has 69 MA's), (Start: 66 @36441 has 10 MA's), (97, 36501), (98, 36504),

Gene: Empress\_71 Start: 45691, Stop: 45918, Start Num: 57  
Candidate Starts for Empress\_71:  
(Start: 57 @45691 has 37 MA's), (99, 45790),

Gene: Enby\_53 Start: 35552, Stop: 35782, Start Num: 55  
Candidate Starts for Enby\_53:  
(41, 35519), (Start: 43 @35522 has 1 MA's), (Start: 55 @35552 has 69 MA's), (Start: 66 @35588 has 10 MA's), (97, 35648), (98, 35651),

Gene: EricMillard\_137 Start: 76084, Stop: 76329, Start Num: 61  
Candidate Starts for EricMillard\_137:  
(21, 75949), (40, 76024), (46, 76039), (Start: 61 @76084 has 36 MA's), (92, 76156), (93, 76159),

Gene: Etoile\_52 Start: 36036, Stop: 36263, Start Num: 57

Candidate Starts for Etoile\_52:

(30, 35973), (Start: 57 @36036 has 37 MA's), (99, 36135),

Gene: Firehouse51\_53 Start: 39958, Stop: 40203, Start Num: 55

Candidate Starts for Firehouse51\_53:

(Start: 43 @39928 has 1 MA's), (Start: 55 @39958 has 69 MA's), (98, 40069),

Gene: FirstPlacePfu\_54 Start: 36068, Stop: 36295, Start Num: 57

Candidate Starts for FirstPlacePfu\_54:

(30, 36005), (Start: 57 @36068 has 37 MA's), (99, 36167),

Gene: Fishburne\_52 Start: 36036, Stop: 36263, Start Num: 57

Candidate Starts for Fishburne\_52:

(30, 35973), (Start: 57 @36036 has 37 MA's), (99, 36135),

Gene: FrayBell\_6 Start: 1888, Stop: 2115, Start Num: 56

Candidate Starts for FrayBell\_6:

(Start: 52 @1879 has 3 MA's), (Start: 56 @1888 has 20 MA's), (Start: 66 @1924 has 10 MA's), (71, 1933), (98, 1987), (109, 2026),

Gene: GMA1\_52 Start: 32897, Stop: 33145, Start Num: 54

Candidate Starts for GMA1\_52:

(26, 32816), (30, 32828), (38, 32855), (47, 32882), (Start: 54 @32897 has 10 MA's),

Gene: GMA2\_107 Start: 94211, Stop: 93939, Start Num: 54

Candidate Starts for GMA2\_107:

(Start: 54 @94211 has 10 MA's), (113, 94031),

Gene: Gambino\_79 Start: 48141, Stop: 48380, Start Num: 95

Candidate Starts for Gambino\_79:

(1, 47394), (2, 47400), (3, 47406), (4, 47451), (13, 47889), (20, 47916), (35, 47979), (44, 48003), (67, 48078), (70, 48087), (Start: 95 @48141 has 4 MA's), (99, 48168), (131, 48306), (133, 48327), (134, 48375),

Gene: Gandolph\_55 Start: 37415, Stop: 37660, Start Num: 55

Candidate Starts for Gandolph\_55:

(Start: 55 @37415 has 69 MA's), (97, 37523),

Gene: Geralt\_66 Start: 44787, Stop: 45014, Start Num: 57

Candidate Starts for Geralt\_66:

(Start: 57 @44787 has 37 MA's), (99, 44886),

Gene: GigiOuiOui\_49 Start: 36354, Stop: 36596, Start Num: 55

Candidate Starts for GigiOuiOui\_49:

(Start: 43 @36324 has 1 MA's), (Start: 55 @36354 has 69 MA's), (97, 36462),

Gene: Gumball\_84 Start: 60133, Stop: 60360, Start Num: 55

Candidate Starts for Gumball\_84:

(16, 60010), (Start: 55 @60133 has 69 MA's), (Start: 66 @60169 has 10 MA's), (71, 60178), (98, 60232),

Gene: Halley\_147 Start: 77896, Stop: 78141, Start Num: 61

Candidate Starts for Halley\_147:

(21, 77761), (40, 77836), (46, 77851), (Start: 61 @77896 has 36 MA's), (92, 77968), (93, 77971),

Gene: Hamulus\_53 Start: 37796, Stop: 38026, Start Num: 55

Candidate Starts for Hamulus\_53:

(Start: 43 @37766 has 1 MA's), (Start: 55 @37796 has 69 MA's), (Start: 66 @37832 has 10 MA's), (97, 37892), (98, 37895),

Gene: Harley\_54 Start: 37188, Stop: 37382, Start Num: 66

Candidate Starts for Harley\_54:

(Start: 43 @37122 has 1 MA's), (Start: 55 @37152 has 69 MA's), (Start: 66 @37188 has 10 MA's), (97, 37248), (98, 37251),

Gene: Hawkeye\_97 Start: 61659, Stop: 61895, Start Num: 57

Candidate Starts for Hawkeye\_97:

(24, 61557), (39, 61620), (42, 61626), (Start: 57 @61659 has 37 MA's), (85, 61728), (98, 61758), (120, 61809), (125, 61830), (131, 61872),

Gene: Hegedechwinu\_72 Start: 43105, Stop: 43332, Start Num: 57

Candidate Starts for Hegedechwinu\_72:

(Start: 57 @43105 has 37 MA's), (99, 43204),

Gene: Helpful\_87 Start: 60143, Stop: 60346, Start Num: 55

Candidate Starts for Helpful\_87:

(16, 60017), (18, 60026), (Start: 55 @60143 has 69 MA's), (62, 60167), (98, 60245), (119, 60296),

Gene: Hidrated\_131 Start: 76215, Stop: 76493, Start Num: 61

Candidate Starts for Hidrated\_131:

(21, 76080), (46, 76170), (Start: 61 @76215 has 36 MA's), (92, 76287), (93, 76290), (121, 76410),

Gene: HokkenD\_138 Start: 77055, Stop: 77300, Start Num: 61

Candidate Starts for HokkenD\_138:

(21, 76920), (46, 77010), (Start: 61 @77055 has 36 MA's), (92, 77127), (93, 77130),

Gene: Hughesyang\_144 Start: 77666, Stop: 77911, Start Num: 61

Candidate Starts for Hughesyang\_144:

(21, 77531), (40, 77606), (46, 77621), (Start: 61 @77666 has 36 MA's), (92, 77738), (93, 77741),

Gene: InterFolia\_6 Start: 1924, Stop: 2115, Start Num: 66

Candidate Starts for InterFolia\_6:

(Start: 52 @1879 has 3 MA's), (Start: 56 @1888 has 20 MA's), (Start: 66 @1924 has 10 MA's), (71, 1933), (98, 1987), (109, 2026),

Gene: Inventum\_71 Start: 45703, Stop: 45930, Start Num: 57

Candidate Starts for Inventum\_71:

(Start: 57 @45703 has 37 MA's), (99, 45802),

Gene: Inventum\_47 Start: 36162, Stop: 36395, Start Num: 55

Candidate Starts for Inventum\_47:

(Start: 43 @36132 has 1 MA's), (Start: 55 @36162 has 69 MA's), (62, 36186), (81, 36228), (94, 36243), (97, 36261), (98, 36264),

Gene: JalFarm20\_60 Start: 39595, Stop: 39840, Start Num: 55

Candidate Starts for JalFarm20\_60:

(45, 39571), (Start: 55 @39595 has 69 MA's), (98, 39706),

Gene: Jant\_56 Start: 38892, Stop: 39086, Start Num: 66

Candidate Starts for Jant\_56:

(Start: 43 @38826 has 1 MA's), (Start: 55 @38856 has 69 MA's), (Start: 66 @38892 has 10 MA's), (97, 38952), (98, 38955),

Gene: Jasper\_66 Start: 41666, Stop: 41439, Start Num: 68

Candidate Starts for Jasper\_66:

(Start: 68 @41666 has 3 MA's), (98, 41606),

Gene: JayJay\_6 Start: 1730, Stop: 1996, Start Num: 52

Candidate Starts for JayJay\_6:

(Start: 52 @1730 has 3 MA's), (Start: 56 @1739 has 20 MA's), (62, 1763), (82, 1805), (90, 1820), (97, 1838), (98, 1841), (124, 1937),

Gene: Jinglebell\_38 Start: 31199, Stop: 31008, Start Num: 56

Candidate Starts for Jinglebell\_38:

(Start: 56 @31199 has 20 MA's), (98, 31109),

Gene: Job42\_55 Start: 39394, Stop: 39636, Start Num: 55

Candidate Starts for Job42\_55:

(19, 39280), (23, 39292), (31, 39328), (48, 39379), (Start: 55 @39394 has 69 MA's), (98, 39505),

Gene: JoeyJr\_73 Start: 46692, Stop: 46919, Start Num: 57

Candidate Starts for JoeyJr\_73:

(Start: 57 @46692 has 37 MA's), (99, 46791),

Gene: JuicyJay\_141 Start: 79181, Stop: 79426, Start Num: 61

Candidate Starts for JuicyJay\_141:

(21, 79046), (46, 79136), (Start: 61 @79181 has 36 MA's), (92, 79253), (93, 79256),

Gene: Kalah2\_136 Start: 76787, Stop: 77032, Start Num: 61

Candidate Starts for Kalah2\_136:

(21, 76652), (46, 76742), (Start: 61 @76787 has 36 MA's), (92, 76859), (93, 76862),

Gene: KandZ\_82 Start: 59971, Stop: 60174, Start Num: 55

Candidate Starts for KandZ\_82:

(16, 59845), (18, 59854), (Start: 55 @59971 has 69 MA's), (62, 59995), (98, 60073), (119, 60124),

Gene: Kari\_52 Start: 36033, Stop: 36260, Start Num: 57

Candidate Starts for Kari\_52:

(30, 35970), (Start: 57 @36033 has 37 MA's), (99, 36132),

Gene: KashFlow\_144 Start: 76087, Stop: 76332, Start Num: 61

Candidate Starts for KashFlow\_144:

(21, 75952), (46, 76042), (Start: 61 @76087 has 36 MA's), (92, 76159), (93, 76162),

Gene: Kenuha5\_50 Start: 36123, Stop: 36365, Start Num: 55

Candidate Starts for Kenuha5\_50:

(27, 36039), (32, 36057), (45, 36099), (Start: 55 @36123 has 69 MA's), (98, 36234),

Gene: KingMidas\_72 Start: 46106, Stop: 46333, Start Num: 57

Candidate Starts for KingMidas\_72:  
(Start: 57 @46106 has 37 MA's), (99, 46205),

Gene: Klein\_143 Start: 75389, Stop: 75634, Start Num: 61  
Candidate Starts for Klein\_143:  
(21, 75254), (46, 75344), (Start: 61 @75389 has 36 MA's), (92, 75461), (93, 75464),

Gene: Krakatau\_50 Start: 36883, Stop: 37077, Start Num: 66  
Candidate Starts for Krakatau\_50:  
(Start: 43 @36817 has 1 MA's), (Start: 55 @36847 has 69 MA's), (Start: 66 @36883 has 10 MA's), (97, 36943), (98, 36946),

Gene: KristaRAM\_51 Start: 38223, Stop: 38468, Start Num: 55  
Candidate Starts for KristaRAM\_51:  
(27, 38139), (32, 38157), (45, 38199), (Start: 55 @38223 has 69 MA's), (98, 38334),

Gene: Langerak\_53 Start: 36052, Stop: 36279, Start Num: 57  
Candidate Starts for Langerak\_53:  
(30, 35989), (Start: 57 @36052 has 37 MA's), (99, 36151),

Gene: Latretium\_77 Start: 46947, Stop: 47177, Start Num: 66  
Candidate Starts for Latretium\_77:  
(34, 46854), (Start: 56 @46911 has 20 MA's), (Start: 66 @46947 has 10 MA's), (97, 47007), (98, 47010),

Gene: Leperchaun\_71 Start: 45926, Stop: 46153, Start Num: 57  
Candidate Starts for Leperchaun\_71:  
(Start: 57 @45926 has 37 MA's), (99, 46025),

Gene: LinStu\_6 Start: 2738, Stop: 2995, Start Num: 56  
Candidate Starts for LinStu\_6:  
(Start: 52 @2729 has 3 MA's), (Start: 56 @2738 has 20 MA's), (62, 2762), (82, 2804), (90, 2819), (97, 2837), (98, 2840), (124, 2936),

Gene: Llama\_39 Start: 31198, Stop: 31007, Start Num: 56  
Candidate Starts for Llama\_39:  
(Start: 56 @31198 has 20 MA's), (98, 31108),

Gene: LolaVinca\_6 Start: 1879, Stop: 2115, Start Num: 52  
Candidate Starts for LolaVinca\_6:  
(Start: 52 @1879 has 3 MA's), (Start: 56 @1888 has 20 MA's), (Start: 66 @1924 has 10 MA's), (71, 1933), (98, 1987), (109, 2026),

Gene: LordLeafolot\_6 Start: 1888, Stop: 2115, Start Num: 56  
Candidate Starts for LordLeafolot\_6:  
(Start: 52 @1879 has 3 MA's), (Start: 56 @1888 has 20 MA's), (Start: 66 @1924 has 10 MA's), (71, 1933), (98, 1987), (109, 2026),

Gene: Lorde\_53 Start: 35527, Stop: 35757, Start Num: 55  
Candidate Starts for Lorde\_53:  
(41, 35494), (Start: 43 @35497 has 1 MA's), (Start: 55 @35527 has 69 MA's), (Start: 66 @35563 has 10 MA's), (97, 35623), (98, 35626),

Gene: Lucky10\_55 Start: 35945, Stop: 36226, Start Num: 51  
Candidate Starts for Lucky10\_55:  
(Start: 51 @35945 has 2 MA's), (67, 35993), (73, 36011), (86, 36032), (97, 36068), (99, 36080), (103, 36101), (106, 36107), (107, 36116),

Gene: Lucky2013\_137 Start: 73141, Stop: 73386, Start Num: 61  
Candidate Starts for Lucky2013\_137:  
(21, 73006), (40, 73081), (46, 73096), (Start: 61 @73141 has 36 MA's), (92, 73213), (93, 73216), (94, 73219),

Gene: MadKillah\_103 Start: 62045, Stop: 61815, Start Num: 66  
Candidate Starts for MadKillah\_103:  
(49, 62096), (Start: 66 @62045 has 10 MA's), (72, 62033), (97, 61985), (98, 61982),

Gene: MadMen\_62 Start: 41080, Stop: 41310, Start Num: 66  
Candidate Starts for MadMen\_62:  
(Start: 56 @41044 has 20 MA's), (Start: 66 @41080 has 10 MA's), (97, 41140), (98, 41143),

Gene: Madiba\_50 Start: 35664, Stop: 35894, Start Num: 55  
Candidate Starts for Madiba\_50:  
(Start: 43 @35634 has 1 MA's), (Start: 55 @35664 has 69 MA's), (Start: 66 @35700 has 10 MA's), (97, 35760), (98, 35763),

Gene: Marker\_53 Start: 37153, Stop: 37359, Start Num: 55  
Candidate Starts for Marker\_53:  
(Start: 43 @37123 has 1 MA's), (Start: 55 @37153 has 69 MA's), (98, 37264),

Gene: Marleymoo\_128 Start: 73628, Stop: 73906, Start Num: 61  
Candidate Starts for Marleymoo\_128:  
(21, 73493), (46, 73583), (Start: 61 @73628 has 36 MA's), (92, 73700), (93, 73703), (121, 73823),

Gene: Marsha\_65 Start: 43596, Stop: 43360, Start Num: 54  
Candidate Starts for Marsha\_65:  
(Start: 54 @43596 has 10 MA's), (75, 43536),

Gene: Melissauren88\_50 Start: 36304, Stop: 36534, Start Num: 55  
Candidate Starts for Melissauren88\_50:  
(Start: 43 @36274 has 1 MA's), (Start: 55 @36304 has 69 MA's), (Start: 66 @36340 has 10 MA's), (97, 36400), (98, 36403),

Gene: MiaZeal\_144 Start: 74280, Stop: 74525, Start Num: 61  
Candidate Starts for MiaZeal\_144:  
(21, 74145), (40, 74220), (46, 74235), (Start: 61 @74280 has 36 MA's), (92, 74352), (93, 74355), (94, 74358),

Gene: MilleniumForce\_52 Start: 38325, Stop: 38558, Start Num: 55  
Candidate Starts for MilleniumForce\_52:  
(Start: 43 @38295 has 1 MA's), (Start: 55 @38325 has 69 MA's), (Start: 66 @38361 has 10 MA's), (97, 38421), (98, 38424),

Gene: Minerva\_145 Start: 76838, Stop: 77116, Start Num: 61  
Candidate Starts for Minerva\_145:

(21, 76703), (46, 76793), (Start: 61 @76838 has 36 MA's), (92, 76910), (93, 76913), (101, 76955), (121, 77033),

Gene: MinionDave\_51 Start: 36841, Stop: 37071, Start Num: 55

Candidate Starts for MinionDave\_51:

(Start: 43 @36811 has 1 MA's), (Start: 55 @36841 has 69 MA's), (Start: 66 @36877 has 10 MA's), (97, 36937), (98, 36940),

Gene: MissRona\_77 Start: 48142, Stop: 48381, Start Num: 95

Candidate Starts for MissRona\_77:

(1, 47395), (2, 47401), (3, 47407), (4, 47452), (13, 47890), (20, 47917), (35, 47980), (44, 48004), (67, 48079), (70, 48088), (Start: 95 @48142 has 4 MA's), (99, 48169), (131, 48307), (133, 48328), (134, 48376),

Gene: Modragons\_38 Start: 31043, Stop: 30852, Start Num: 56

Candidate Starts for Modragons\_38:

(Start: 56 @31043 has 20 MA's), (98, 30953),

Gene: Moonbeam\_48 Start: 36361, Stop: 36591, Start Num: 55

Candidate Starts for Moonbeam\_48:

(Start: 43 @36331 has 1 MA's), (Start: 55 @36361 has 69 MA's), (Start: 66 @36397 has 10 MA's), (97, 36457), (98, 36460),

Gene: Mova\_53 Start: 36684, Stop: 36917, Start Num: 55

Candidate Starts for Mova\_53:

(Start: 43 @36654 has 1 MA's), (Start: 55 @36684 has 69 MA's), (Start: 66 @36720 has 10 MA's), (97, 36780), (98, 36783),

Gene: Mozy\_62 Start: 39946, Stop: 40173, Start Num: 55

Candidate Starts for Mozy\_62:

(Start: 43 @39916 has 1 MA's), (Start: 55 @39946 has 69 MA's), (62, 39970), (80, 40012), (91, 40027), (97, 40045), (98, 40048), (104, 40078),

Gene: Mule\_62 Start: 41651, Stop: 41406, Start Num: 54

Candidate Starts for Mule\_62:

(Start: 54 @41651 has 10 MA's), (70, 41609), (74, 41597), (84, 41594), (98, 41555), (101, 41537),

Gene: Mwanjiwa\_58 Start: 37785, Stop: 38027, Start Num: 55

Candidate Starts for Mwanjiwa\_58:

(Start: 43 @37755 has 1 MA's), (Start: 55 @37785 has 69 MA's), (98, 37896),

Gene: Nappy\_5 Start: 1734, Stop: 1961, Start Num: 56

Candidate Starts for Nappy\_5:

(Start: 52 @1725 has 3 MA's), (Start: 56 @1734 has 20 MA's), (Start: 66 @1770 has 10 MA's), (71, 1779), (98, 1833), (109, 1872),

Gene: Nazo\_58 Start: 40075, Stop: 40302, Start Num: 57

Candidate Starts for Nazo\_58:

(30, 40012), (Start: 57 @40075 has 37 MA's), (99, 40174), (122, 40237),

Gene: Nichirin\_39 Start: 31227, Stop: 31036, Start Num: 56

Candidate Starts for Nichirin\_39:

(Start: 56 @31227 has 20 MA's), (98, 31137),

Gene: NihilNomen\_147 Start: 77126, Stop: 77371, Start Num: 61

Candidate Starts for NihilNomen\_147:

(21, 76991), (46, 77081), (Start: 61 @77126 has 36 MA's), (92, 77198), (93, 77201),

Gene: Nimbo\_65 Start: 44790, Stop: 45017, Start Num: 57

Candidate Starts for Nimbo\_65:

(Start: 57 @44790 has 37 MA's), (99, 44889),

Gene: NuevoMundo\_6 Start: 1876, Stop: 2112, Start Num: 52

Candidate Starts for NuevoMundo\_6:

(Start: 52 @1876 has 3 MA's), (Start: 56 @1885 has 20 MA's), (Start: 66 @1921 has 10 MA's), (71, 1930), (98, 1984), (109, 2023),

Gene: Ochi17\_37 Start: 30650, Stop: 30459, Start Num: 56

Candidate Starts for Ochi17\_37:

(Start: 56 @30650 has 20 MA's), (98, 30560),

Gene: Odette\_149 Start: 79269, Stop: 79514, Start Num: 61

Candidate Starts for Odette\_149:

(21, 79134), (46, 79224), (Start: 61 @79269 has 36 MA's), (92, 79341), (93, 79344),

Gene: OfUltron\_39 Start: 31199, Stop: 31008, Start Num: 56

Candidate Starts for OfUltron\_39:

(Start: 56 @31199 has 20 MA's), (98, 31109),

Gene: Ogopogo\_57 Start: 37928, Stop: 38170, Start Num: 55

Candidate Starts for Ogopogo\_57:

(53, 37922), (Start: 55 @37928 has 69 MA's), (98, 38039),

Gene: Okabe\_47 Start: 33316, Stop: 33510, Start Num: 66

Candidate Starts for Okabe\_47:

(Start: 43 @33250 has 1 MA's), (Start: 55 @33280 has 69 MA's), (Start: 66 @33316 has 10 MA's), (97, 33376), (98, 33379),

Gene: Oksu\_39 Start: 31043, Stop: 30852, Start Num: 56

Candidate Starts for Oksu\_39:

(Start: 56 @31043 has 20 MA's), (98, 30953),

Gene: OldBen\_70 Start: 46182, Stop: 46409, Start Num: 57

Candidate Starts for OldBen\_70:

(Start: 57 @46182 has 37 MA's), (99, 46281),

Gene: OneUp\_65 Start: 46990, Stop: 47205, Start Num: 61

Candidate Starts for OneUp\_65:

(Start: 59 @46984 has 1 MA's), (Start: 61 @46990 has 36 MA's), (93, 47065), (94, 47068), (126, 47185),

Gene: Optimus\_136 Start: 74406, Stop: 74651, Start Num: 61

Candidate Starts for Optimus\_136:

(21, 74271), (40, 74346), (46, 74361), (Start: 61 @74406 has 36 MA's), (92, 74478), (93, 74481),

Gene: OwlsT2W\_53 Start: 37646, Stop: 37888, Start Num: 55

Candidate Starts for OwlsT2W\_53:  
(Start: 43 @37616 has 1 MA's), (Start: 55 @37646 has 69 MA's), (97, 37754),

Gene: PHappiness\_73 Start: 47011, Stop: 47238, Start Num: 57  
Candidate Starts for PHappiness\_73:  
(Start: 57 @47011 has 37 MA's), (99, 47110),

Gene: Periwinkle\_62 Start: 38089, Stop: 38367, Start Num: 54  
Candidate Starts for Periwinkle\_62:  
(Start: 54 @38089 has 10 MA's), (94, 38185), (108, 38251), (129, 38329),

Gene: Phalaborwa\_86 Start: 60456, Stop: 60659, Start Num: 55  
Candidate Starts for Phalaborwa\_86:  
(16, 60330), (18, 60339), (25, 60357), (Start: 55 @60456 has 69 MA's), (71, 60501), (87, 60534), (98, 60558), (119, 60609), (123, 60621),

Gene: Phalconet\_51 Start: 36608, Stop: 36838, Start Num: 55  
Candidate Starts for Phalconet\_51:  
(Start: 43 @36578 has 1 MA's), (Start: 55 @36608 has 69 MA's), (Start: 66 @36644 has 10 MA's), (97, 36704), (98, 36707),

Gene: Phanphagia\_47 Start: 36555, Stop: 36800, Start Num: 55  
Candidate Starts for Phanphagia\_47:  
(38, 36510), (45, 36531), (Start: 55 @36555 has 69 MA's), (98, 36666),

Gene: PharkleMinkus\_6 Start: 1924, Stop: 2115, Start Num: 66  
Candidate Starts for PharkleMinkus\_6:  
(Start: 52 @1879 has 3 MA's), (Start: 56 @1888 has 20 MA's), (Start: 66 @1924 has 10 MA's), (71, 1933), (98, 1987), (109, 2026),

Gene: Phasih\_51 Start: 37693, Stop: 37935, Start Num: 55  
Candidate Starts for Phasih\_51:  
(53, 37687), (Start: 55 @37693 has 69 MA's), (98, 37804),

Gene: Phayonce\_59 Start: 40788, Stop: 41024, Start Num: 57  
Candidate Starts for Phayonce\_59:  
(12, 40608), (Start: 57 @40788 has 37 MA's), (96, 40881), (107, 40929), (122, 40959), (128, 40989), (131, 41010),

Gene: PherrisBueller\_66 Start: 41317, Stop: 41090, Start Num: 68  
Candidate Starts for PherrisBueller\_66:  
(Start: 68 @41317 has 3 MA's), (98, 41257),

Gene: PhesterPhotato\_54 Start: 37593, Stop: 37826, Start Num: 55  
Candidate Starts for PhesterPhotato\_54:  
(Start: 43 @37563 has 1 MA's), (Start: 55 @37593 has 69 MA's), (Start: 66 @37629 has 10 MA's), (97, 37689), (98, 37692),

Gene: PhesterPhotato\_75 Start: 45749, Stop: 45976, Start Num: 57  
Candidate Starts for PhesterPhotato\_75:  
(30, 45686), (Start: 57 @45749 has 37 MA's), (99, 45848),

Gene: Phoebus\_145 Start: 79020, Stop: 79265, Start Num: 61

Candidate Starts for Phoebus\_145:

(21, 78885), (40, 78960), (46, 78975), (Start: 61 @79020 has 36 MA's), (92, 79092), (93, 79095),

Gene: PhrostyMug\_65 Start: 43825, Stop: 43580, Start Num: 54

Candidate Starts for PhrostyMug\_65:

(Start: 54 @43825 has 10 MA's), (70, 43783), (74, 43771), (84, 43768), (98, 43729), (101, 43711),

Gene: Pier\_6 Start: 1888, Stop: 2115, Start Num: 56

Candidate Starts for Pier\_6:

(Start: 52 @1879 has 3 MA's), (Start: 56 @1888 has 20 MA's), (Start: 66 @1924 has 10 MA's), (71, 1933), (98, 1987), (109, 2026),

Gene: Poenanya\_52 Start: 38179, Stop: 38421, Start Num: 55

Candidate Starts for Poenanya\_52:

(Start: 43 @38149 has 1 MA's), (Start: 55 @38179 has 69 MA's), (97, 38287),

Gene: Poenanya\_76 Start: 46880, Stop: 47107, Start Num: 57

Candidate Starts for Poenanya\_76:

(Start: 57 @46880 has 37 MA's), (99, 46979),

Gene: Polka14\_77 Start: 47670, Stop: 47897, Start Num: 57

Candidate Starts for Polka14\_77:

(Start: 57 @47670 has 37 MA's), (99, 47769),

Gene: Polka14\_51 Start: 36782, Stop: 37027, Start Num: 55

Candidate Starts for Polka14\_51:

(Start: 55 @36782 has 69 MA's), (97, 36890),

Gene: Polkaroo\_55 Start: 37375, Stop: 37602, Start Num: 57

Candidate Starts for Polkaroo\_55:

(30, 37312), (Start: 57 @37375 has 37 MA's), (99, 37474),

Gene: Porcelain\_141 Start: 74087, Stop: 74332, Start Num: 61

Candidate Starts for Porcelain\_141:

(21, 73952), (40, 74027), (46, 74042), (Start: 61 @74087 has 36 MA's), (92, 74159), (93, 74162), (94, 74165),

Gene: Pound\_137 Start: 76839, Stop: 77084, Start Num: 61

Candidate Starts for Pound\_137:

(21, 76704), (40, 76779), (46, 76794), (Start: 61 @76839 has 36 MA's), (92, 76911), (93, 76914),

Gene: Pupusa\_6 Start: 1924, Stop: 2115, Start Num: 66

Candidate Starts for Pupusa\_6:

(Start: 52 @1879 has 3 MA's), (Start: 56 @1888 has 20 MA's), (Start: 66 @1924 has 10 MA's), (71, 1933), (98, 1987), (109, 2026),

Gene: Purky\_63 Start: 41280, Stop: 41552, Start Num: 33

Candidate Starts for Purky\_63:

(Start: 33 @41280 has 2 MA's), (37, 41295), (69, 41364), (82, 41388), (97, 41421), (100, 41439), (128, 41517), (131, 41538),

Gene: Purky\_64 Start: 41545, Stop: 41862, Start Num: 33

Candidate Starts for Purky\_64:

(11, 41383), (28, 41530), (Start: 33 @41545 has 2 MA's), (82, 41677), (122, 41794), (131, 41848),

Gene: Rando14\_64 Start: 42240, Stop: 42497, Start Num: 36

Candidate Starts for Rando14\_64:

(29, 42219), (Start: 36 @42240 has 1 MA's), (63, 42300), (97, 42360), (102, 42390), (122, 42435),

Gene: RedBird\_74 Start: 45372, Stop: 45599, Start Num: 57

Candidate Starts for RedBird\_74:

(Start: 57 @45372 has 37 MA's), (99, 45471),

Gene: Redno2\_140 Start: 75128, Stop: 75373, Start Num: 61

Candidate Starts for Redno2\_140:

(21, 74993), (46, 75083), (Start: 61 @75128 has 36 MA's), (92, 75200), (93, 75203),

Gene: Renaud18\_58 Start: 38221, Stop: 38445, Start Num: 55

Candidate Starts for Renaud18\_58:

(Start: 43 @38191 has 1 MA's), (Start: 55 @38221 has 69 MA's), (64, 38254), (83, 38278), (97, 38311),

Gene: Renaud18\_70 Start: 41973, Stop: 42221, Start Num: 56

Candidate Starts for Renaud18\_70:

(44, 41946), (Start: 56 @41973 has 20 MA's), (92, 42069), (97, 42093), (104, 42126),

Gene: Renaud18\_71 Start: 42261, Stop: 42503, Start Num: 54

Candidate Starts for Renaud18\_71:

(Start: 54 @42261 has 10 MA's), (60, 42276), (98, 42354), (114, 42414),

Gene: RitaG\_73 Start: 46813, Stop: 47040, Start Num: 57

Candidate Starts for RitaG\_73:

(Start: 57 @46813 has 37 MA's), (99, 46912),

Gene: RockyHorror\_53 Start: 37057, Stop: 37299, Start Num: 55

Candidate Starts for RockyHorror\_53:

(Start: 43 @37027 has 1 MA's), (Start: 55 @37057 has 69 MA's), (98, 37168),

Gene: Royals2015\_55 Start: 37315, Stop: 37545, Start Num: 55

Candidate Starts for Royals2015\_55:

(Start: 43 @37285 has 1 MA's), (Start: 55 @37315 has 69 MA's), (Start: 66 @37351 has 10 MA's), (97, 37411), (98, 37414),

Gene: Ryadel\_103 Start: 62455, Stop: 62225, Start Num: 66

Candidate Starts for Ryadel\_103:

(Start: 56 @62491 has 20 MA's), (Start: 66 @62455 has 10 MA's), (97, 62395), (98, 62392),

Gene: SG4\_69 Start: 43478, Stop: 43705, Start Num: 57

Candidate Starts for SG4\_69:

(Start: 57 @43478 has 37 MA's), (99, 43577),

Gene: SG4\_49 Start: 36037, Stop: 36267, Start Num: 55

Candidate Starts for SG4\_49:

(41, 36004), (Start: 43 @36007 has 1 MA's), (Start: 55 @36037 has 69 MA's), (Start: 66 @36073 has 10 MA's), (97, 36133), (98, 36136),

Gene: Sassafra\_50 Start: 36161, Stop: 36394, Start Num: 55

Candidate Starts for Sassafras\_50:

(Start: 43 @36131 has 1 MA's), (Start: 55 @36161 has 69 MA's), (62, 36185), (81, 36227), (94, 36242), (97, 36260), (98, 36263),

Gene: Sassafras\_74 Start: 45702, Stop: 45929, Start Num: 57

Candidate Starts for Sassafras\_74:

(Start: 57 @45702 has 37 MA's), (99, 45801),

Gene: Schatzie\_141 Start: 77688, Stop: 77933, Start Num: 61

Candidate Starts for Schatzie\_141:

(21, 77553), (40, 77628), (46, 77643), (Start: 61 @77688 has 36 MA's), (92, 77760), (93, 77763),

Gene: Scottish\_71 Start: 45361, Stop: 45588, Start Num: 57

Candidate Starts for Scottish\_71:

(Start: 57 @45361 has 37 MA's), (99, 45460),

Gene: Seabastian\_39 Start: 31199, Stop: 31008, Start Num: 56

Candidate Starts for Seabastian\_39:

(Start: 56 @31199 has 20 MA's), (98, 31109),

Gene: Sebata\_6 Start: 2738, Stop: 2995, Start Num: 56

Candidate Starts for Sebata\_6:

(Start: 52 @2729 has 3 MA's), (Start: 56 @2738 has 20 MA's), (62, 2762), (82, 2804), (90, 2819), (97, 2837), (98, 2840), (124, 2936),

Gene: ShroomBoi\_52 Start: 36993, Stop: 37238, Start Num: 55

Candidate Starts for ShroomBoi\_52:

(27, 36909), (32, 36927), (45, 36969), (Start: 55 @36993 has 69 MA's), (98, 37104),

Gene: SirHarley\_86 Start: 60117, Stop: 60344, Start Num: 55

Candidate Starts for SirHarley\_86:

(16, 59994), (Start: 55 @60117 has 69 MA's), (Start: 66 @60153 has 10 MA's), (71, 60162), (98, 60216),

Gene: Smairt\_67 Start: 44819, Stop: 44574, Start Num: 54

Candidate Starts for Smairt\_67:

(Start: 54 @44819 has 10 MA's), (70, 44777), (74, 44765), (84, 44762), (98, 44723), (101, 44705),

Gene: Sparkdehlily\_60 Start: 38797, Stop: 39039, Start Num: 55

Candidate Starts for Sparkdehlily\_60:

(53, 38791), (Start: 55 @38797 has 69 MA's), (98, 38908),

Gene: Specks\_6 Start: 1888, Stop: 2115, Start Num: 56

Candidate Starts for Specks\_6:

(Start: 52 @1879 has 3 MA's), (Start: 56 @1888 has 20 MA's), (Start: 66 @1924 has 10 MA's), (71, 1933), (98, 1987), (109, 2026),

Gene: Stellammi\_132 Start: 62378, Stop: 62599, Start Num: 55

Candidate Starts for Stellammi\_132:

(Start: 55 @62378 has 69 MA's), (98, 62471),

Gene: Sunshine924\_70 Start: 43095, Stop: 42850, Start Num: 54

Candidate Starts for Sunshine924\_70:

(Start: 54 @43095 has 10 MA's), (70, 43053), (74, 43041), (84, 43038), (98, 42999), (101, 42981),

Gene: SuperGrey\_52 Start: 37962, Stop: 38207, Start Num: 55

Candidate Starts for SuperGrey\_52:

(27, 37878), (32, 37896), (45, 37938), (Start: 55 @37962 has 69 MA's), (98, 38073),

Gene: TDanisky\_60 Start: 38797, Stop: 39039, Start Num: 55

Candidate Starts for TDanisky\_60:

(53, 38791), (Start: 55 @38797 has 69 MA's), (98, 38908),

Gene: Tainan\_6 Start: 1924, Stop: 2115, Start Num: 66

Candidate Starts for Tainan\_6:

(Start: 52 @1879 has 3 MA's), (Start: 56 @1888 has 20 MA's), (Start: 66 @1924 has 10 MA's), (71, 1933), (98, 1987), (109, 2026),

Gene: Taj\_56 Start: 38142, Stop: 38369, Start Num: 55

Candidate Starts for Taj\_56:

(Start: 43 @38112 has 1 MA's), (Start: 55 @38142 has 69 MA's), (64, 38175), (83, 38199), (97, 38232),

Gene: Tarzan\_58 Start: 37656, Stop: 37880, Start Num: 57

Candidate Starts for Tarzan\_58:

(Start: 57 @37656 has 37 MA's), (65, 37692), (105, 37785), (125, 37833),

Gene: Thibault\_128 Start: 74023, Stop: 74301, Start Num: 61

Candidate Starts for Thibault\_128:

(21, 73888), (46, 73978), (Start: 61 @74023 has 36 MA's), (92, 74095), (93, 74098), (101, 74140), (116, 74206), (121, 74218),

Gene: ThreeRngTarjay\_140 Start: 77611, Stop: 77856, Start Num: 61

Candidate Starts for ThreeRngTarjay\_140:

(21, 77476), (40, 77551), (46, 77566), (Start: 61 @77611 has 36 MA's), (92, 77683), (93, 77686),

Gene: TinyDot\_48 Start: 31963, Stop: 32163, Start Num: 79

Candidate Starts for TinyDot\_48:

(Start: 79 @31963 has 1 MA's), (111, 32071), (112, 32074),

Gene: Tonenili\_49 Start: 15568, Stop: 15810, Start Num: 57

Candidate Starts for Tonenili\_49:

(45, 15550), (Start: 57 @15568 has 37 MA's), (62, 15592), (78, 15634), (88, 15649), (97, 15670), (102, 15700), (107, 15718), (118, 15739),

Gene: Tonenili\_50 Start: 15803, Stop: 16036, Start Num: 57

Candidate Starts for Tonenili\_50:

(Start: 50 @15797 has 1 MA's), (Start: 57 @15803 has 37 MA's), (Start: 66 @15839 has 10 MA's), (84, 15875), (96, 15896), (118, 15962), (122, 15971),

Gene: Topiatin\_58 Start: 38825, Stop: 39058, Start Num: 55

Candidate Starts for Topiatin\_58:

(Start: 43 @38795 has 1 MA's), (Start: 55 @38825 has 69 MA's), (76, 38879), (98, 38927),

Gene: Toron\_84 Start: 50886, Stop: 51176, Start Num: 33

Candidate Starts for Toron\_84:

(17, 50841), (Start: 33 @50886 has 2 MA's), (37, 50901), (39, 50910), (82, 51018), (117, 51111), (131, 51162),

Gene: Troll4\_84 Start: 59937, Stop: 60161, Start Num: 55

Candidate Starts for Troll4\_84:

(16, 59811), (18, 59820), (Start: 55 @59937 has 69 MA's), (92, 60033), (98, 60060), (119, 60111),

Gene: Tweety\_52 Start: 37774, Stop: 38004, Start Num: 55

Candidate Starts for Tweety\_52:

(Start: 43 @37744 has 1 MA's), (Start: 55 @37774 has 69 MA's), (Start: 66 @37810 has 10 MA's), (97, 37870), (98, 37873),

Gene: Tyke\_6 Start: 1888, Stop: 2115, Start Num: 56

Candidate Starts for Tyke\_6:

(Start: 52 @1879 has 3 MA's), (Start: 56 @1888 has 20 MA's), (Start: 66 @1924 has 10 MA's), (71, 1933), (98, 1987), (109, 2026),

Gene: VRedHorse\_52 Start: 36525, Stop: 36758, Start Num: 55

Candidate Starts for VRedHorse\_52:

(Start: 43 @36495 has 1 MA's), (Start: 55 @36525 has 69 MA's), (Start: 66 @36561 has 10 MA's), (97, 36621), (98, 36624),

Gene: Venti\_53 Start: 36036, Stop: 36263, Start Num: 57

Candidate Starts for Venti\_53:

(30, 35973), (Start: 57 @36036 has 37 MA's), (99, 36135),

Gene: Vortrix\_52 Start: 16078, Stop: 16320, Start Num: 57

Candidate Starts for Vortrix\_52:

(15, 15955), (Start: 57 @16078 has 37 MA's), (84, 16153), (96, 16180), (118, 16246), (122, 16255),

Gene: Vortrix\_51 Start: 15836, Stop: 16081, Start Num: 57

Candidate Starts for Vortrix\_51:

(45, 15818), (Start: 57 @15836 has 37 MA's), (62, 15860), (78, 15902), (88, 15917), (97, 15938), (102, 15968), (107, 15986), (118, 16007),

Gene: Wanda\_145 Start: 75318, Stop: 75596, Start Num: 61

Candidate Starts for Wanda\_145:

(21, 75183), (46, 75273), (Start: 61 @75318 has 36 MA's), (92, 75390), (93, 75393), (101, 75435), (121, 75513),

Gene: Wee\_55 Start: 38414, Stop: 38641, Start Num: 55

Candidate Starts for Wee\_55:

(Start: 43 @38384 has 1 MA's), (Start: 55 @38414 has 69 MA's), (64, 38447), (83, 38471), (97, 38504),

Gene: Whatsapiecost\_53 Start: 36689, Stop: 36931, Start Num: 55

Candidate Starts for Whatsapiecost\_53:

(Start: 55 @36689 has 69 MA's), (98, 36800),

Gene: William\_80 Start: 49369, Stop: 49632, Start Num: 58

Candidate Starts for William\_80:

(6, 49048), (7, 49063), (8, 49099), (Start: 58 @49369 has 1 MA's), (Start: 66 @49405 has 10 MA's), (89, 49456),

Gene: WilliamBoone\_73 Start: 46911, Stop: 47153, Start Num: 61  
Candidate Starts for WilliamBoone\_73:  
(22, 46791), (Start: 61 @46911 has 36 MA's), (94, 46989), (132, 47139),

Gene: XFactor\_50 Start: 36012, Stop: 36242, Start Num: 55  
Candidate Starts for XFactor\_50:  
(Start: 43 @35982 has 1 MA's), (Start: 55 @36012 has 69 MA's), (Start: 66 @36048 has 10 MA's), (97, 36108), (98, 36111),

Gene: Xiaokay\_141 Start: 77151, Stop: 77429, Start Num: 61  
Candidate Starts for Xiaokay\_141:  
(5, 76800), (21, 77016), (46, 77106), (Start: 61 @77151 has 36 MA's), (92, 77223), (93, 77226), (116, 77334), (121, 77346),

Gene: Yeet\_139 Start: 77084, Stop: 77329, Start Num: 61  
Candidate Starts for Yeet\_139:  
(21, 76949), (46, 77039), (Start: 61 @77084 has 36 MA's), (92, 77156), (93, 77159),

Gene: Yoshi\_64 Start: 38747, Stop: 38995, Start Num: 55  
Candidate Starts for Yoshi\_64:  
(Start: 43 @38717 has 1 MA's), (Start: 55 @38747 has 69 MA's), (92, 38843), (97, 38867), (104, 38900),

Gene: Yoshi\_44 Start: 30151, Stop: 29960, Start Num: 56  
Candidate Starts for Yoshi\_44:  
(Start: 56 @30151 has 20 MA's), (98, 30061),

Gene: YungJamal\_99 Start: 61508, Stop: 61278, Start Num: 66  
Candidate Starts for YungJamal\_99:  
(Start: 56 @61544 has 20 MA's), (Start: 66 @61508 has 10 MA's), (97, 61448), (98, 61445),

Gene: Zelink\_140 Start: 78130, Stop: 78408, Start Num: 61  
Candidate Starts for Zelink\_140:  
(21, 77995), (40, 78070), (46, 78085), (Start: 61 @78130 has 36 MA's), (92, 78202), (93, 78205), (101, 78247), (121, 78325),

Gene: Zerg\_52 Start: 37166, Stop: 37408, Start Num: 55  
Candidate Starts for Zerg\_52:  
(Start: 43 @37136 has 1 MA's), (Start: 55 @37166 has 69 MA's), (98, 37277),